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SUMMARY

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United Arab Republic

PRODUCTS OF ANIMAL AND PLANT ORIGIN AND SUBSTITUTES

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PRODUCTS OF ANIMAL AND PLANT ORIGIN AND SUBSTITUTES

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SUMMARY

EDIBLE OILS

1. Cottonseed Oil: About 89,000 tons of cottonseed oil are produced locally every year. Oil content of Egyptian cotton seed ranges between 24.4 and 27.6%; it appeared to be an inherited property of the variety. Ashmuni type seeds have the highest oil content. Lots of mixed varieties of seed used vary in their content according to variation in their dead seed content. Dead seeds have a lower oil content with a high acid value. Mechanical methods give a low yield of oil; loss in yield is 22% - 24.3%, according to variety. This could be recovered if solvent extraction methods are used. Hexane is the best solvent tried for oil extraction. Oil extracted with solvents if generally of lower acidity than that produced by mechanical press. The effect of bleaching on oil (during refining) revealed slight increase in acidity. A consistent relation between free fatty acids and average refining loss was noticed; this relation was conversed when the amount of NaOH, used for neutralization, was increased.

2. Rice Bran and Corn Oils: Annual rice bran production in UAR is 90,000 tons. Oil content of bran varies from 13.12 - 18.03% according to variety. Oil extracted with commercial hexane followed two rates. Lower alcohols are better than hydrocarbons. The main problem with extracting oil from rice bran is the quick formation of fatty acids and oxidative rancidity. This could be inhibited by drying bran in ovens which must be placed inside or near the mills. Effect of steaming and parboiling of paddy on the quality of rice bran should be investigated further. Other treatments should be tried.

3. Corn oil production depends on imported corn which is the only source for corn starch industry in UAR. To solve this problem the cultivated area of corn must be increased, or corn replaced as a main foodstuff with other crops, in the meantime increasing quantity of imported corn. Corn oil is obtained from the germ of the kernel. Oil content of whole fruit is 4.79 - 6.38% in varieties cultivated in UAR.

4. Other Sources of Edible Oils: Attention should be paid to sunflower seed and prickly lettuce seed production in UAR and other countries.

CARBOHYDRATE INDUSTRIES IN UAR

5. Cane Sugar and its Products: Average per capita consumption of sugar in UAR is 14-15 Kgm per year; this is covered by local production. Total area under sugar cane is 85140 feddans with average yield 43290 Kgm of cane per feddan. Present four factories produce 363,028 tons of sugar per year. Recent projects made to increase capacities of present factories and to erect new ones. Also land irrigated by High Asswan Dam will be used for cane production. Trials made to introduce cultivation of beet root as a source of sugar. Problems encountered in manufacture of sugar are:

(i) Cane is grown by budding which deteriorates the species; this necessitates import of new species and better agricultural treatment of soil.

(ii) Not leaving cane to over-mature and its early delivery to the factory to avoid inversion of sucrose.

6. It was found that the 5th or 6th joint from the top of the stalk is the most representative for analytical purposes. Ethanol, vinegar, acetic acid, perfumes and cosmetics are produced from by-products of cane sugar industry. Molasses is used for the manufacture of many chemicals.

7. Corn Starch: The annual production of corn in UAR, 1,499 tons, is totally consumed for bread making in the villages. Starch industry depends on imported corn. There are six starch factories, three of them use corn for starch production and they run at half capacity because of shortage of imported corn and of machinery and spare parts. The sulphur dioxide method is used in UAR for corn starch production. The daily production of one factory is: 45 tons glucose syrup, 10 tons starch, 25 tons feed and 7 tons cake, and 4 tons oil. The steep liquour of corn is under investigation to make use of its nutritive value.

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